Presentation
Overview

Section 1 – PUNCH Group
Section 2 – PUNCH Powerglide Strasbourg
Section 3 – 6L Portfolio & New Transmission Concepts
Section 4 – PUNCH Powerglide Technology Tianjin
Section 1
PUNCH Group

1 – A brief history
2 – The group structure
3 – Key figures
4 – In the media
5 – The Board of Directors
6 – The Vision
## A brief history

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Creation of the industrial group PUNCH International NV in Belgium by Guido Dumarey</td>
</tr>
<tr>
<td>Beginning 2000’s</td>
<td>Investment in different companies in the high-tech and automotive industry (incl. Punch Powertrain) – not part of the group anymore</td>
</tr>
<tr>
<td>2009</td>
<td>Creation of PUNCH Metals International as a separate entity, as supplier to the automotive industry, by Guido Dumarey</td>
</tr>
<tr>
<td>2013</td>
<td>Acquisition of General Motors Strasbourg SAS by PUNCH Metals International NV, changing the name to PUNCH Powerglide Strasbourg</td>
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</tbody>
</table>
– Group structure

Dumarey Family

GML Estate NV
- Real Estate Companies

PUNCH Motive International NV

PUNCH Powerglide Strasbourg SAS
- PUNCH Training Strasbourg SAS
- PUNCH Powerglide Investment Co. (HK)
- PUNCH Powerglide Tianjin Technology Co., Ltd.

PUNCH Flybrid Ltd.

PUNCH Driveline Technologies BV
- PUNCH Corporation NV
- PUNCH Precision Detva, s.r.o
- New Technology Driveline Pty Ltd

PUNCH Elzas BV
- PUNCH Wisches SAS
- PUNCH Beverage Solutions NV
Key Figures (2017)

- Turnover: 503 M€
- EBITDA: 57 M€
- Investments: 9 M€
– The Board of Directors

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Notes</th>
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</thead>
<tbody>
<tr>
<td>Guido DUMAREY</td>
<td>CEO and Owner of the Group</td>
</tr>
<tr>
<td>Jan SMITS</td>
<td>CFO</td>
</tr>
<tr>
<td>Arnaud BAÏLO</td>
<td>Group Director, Operations and President PUNCH Powerglide Strasbourg</td>
</tr>
<tr>
<td>Marc MAES</td>
<td>Group Director for M&amp;A, Corporate Development &amp; Legal Affairs</td>
</tr>
<tr>
<td>Oliver NASS</td>
<td>Group Director Sales &amp; Marketing</td>
</tr>
</tbody>
</table>

For further information, visit our new web site: [www.punch-group.com](http://www.punch-group.com)
Our Vision

PUNCH wants to be the leading integrator and manufacturer of competitive driveline solutions in its targeted automotive markets.

Our envisioned picture of the future

We will be regarded by our customers as the leader in driveline solutions based on our unique competence to integrate proven technologies, components or processes into competitive solutions.

We will be the most valued independent manufacturing contractor of our partners.

Our core values

- Entrepreneurship
- Creativity
- Efficiency
- Reliable Partnership
- Quality products through developing people
Among the leading industrial investors in France

PUNCH’s commitment has been recognized

- 2013: Among the Top 10 investors in the French industry according to Usine Nouvelles (leading French magazine)
- 2014: “Productivez 2014” Label rewarding the most emblematic investors in the French industrial sector
- 2015: Visit of Emmanuel Macron, today French President
- 2015: Award of the Greatest Belgian Investor in France by the state agency Business France

“Thanks to its know-how and expertise, PUNCH is today a recognized entity which delivers added value and which is firmly focused on the future.” (Guido Dumarey)
PUNCH invests 220 M€ in the former GM site

Punch Powerglide

200 nouveaux emplois créés d’ici à mi-2016

PUNCH Powerglide will create 200 new jobs by mid-2016

Visit of the French Minister of Economy

Macron défend sur le terrain l’avantage fiscal en faveur de l’investissement

As purchasing power increases, consumer needs evolve and regulatory requirements expand, industry players across Asia-Pacific’s automotive value chain remain optimistic in their growth forecasts – particularly for the automated transmission sector. Punch Powerglide, a global supplier of high-capacity automatic transmissions and components for gasoline and diesel vehicles, is one such player, with more than 45 years of expertise in the design, development and manufacture of innovative transmission solutions.

Formerly General Motors (GM) Strasbourg, Punch Powerglide was acquired by Punch Métals International in January 2013 – a move that has combined the agility and customer focus of the family-owned Punch Group with the strong technological know-how of GM.

“We now have an industrial approach that gives us a clearer research and development roadmap,” says Dr. Oliver Nass, group director for sales and marketing. “Our customers appreciate our capability to provide proven and reliable products with advanced technology, such as a stop-and-start function.”

Punch Powerglide launched a massive project in 2013 with ZF TRW to produce the next-generation, eight-speed automatic transmission for BMW. In a record-breaking 18 months, the production line got off the ground, quickly followed some months later by Punch Powerglide’s announcement to double its capacity by next year. The overall investment so far amounts to €210 million (HK$1.9 billion).
Section 2
PUNCH Powerglide Strasbourg

1 – Presentation
2 – Mission & Values
3 – History
4 – Automatic Transmissions
5 – Components
6 – Services
7 – Manufacturing
8 – High Product Quality Standards
9 – Engineering
Why Powerglide?

Powerglide is a two-speed automatic transmission designed by General Motors.

It was available primarily on Chevrolet from January 1950 through 1973, although some Pontiac models also used this automatic transmission after the fire at the Hydra-Matic factory in 1953.

Powerglides were used extensively on Pontiacs produced for the Canadian market with Chevrolet powertrains.
• 2016: The French Automotive and Mobility Industry Association (PFA) rewarded PUNCH Powerglide with the Award for the “Best Industrial Performance” in France at the Paris Motor Show.

• 2017: “Pôle Véhicule du Futur” Label certifies the successful hybridization of the 6LP2.

• 2017: Alsace Innovation Trophy for “Mobility Excellence” to reward the plug-in hybrid transmission project.

• 2018: “Pôle Véhicule du Futur Perfo Est” Label certifies with the Performance Award Punch Powerglide Strasbourg’s high service level.
PUNCH Powerglide – Key figures

Figures 2017
• 1,034 salaried employees
• 503 M€ turnover
• 376,200 automatics produced

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67026 Strasbourg Cedex France
Phone: +33 3 88 55 88 55
SIRET: 542-094-750 00081
APE: 2932Z
DUNS: 275149672
PUNCH Powerglide – Its location

PUNCH Powerglide Strasbourg is established in the North-East of France, in the Southeastern corner of Strasbourg.

On the Rhine river bank, the company benefits from exports to neighbouring countries such as Germany, just 6 km away from its site.

Ideally located in the heart of Europe, PUNCH Powerglide Strasbourg site has quick and easy access to an extensive road, rail and waterway network.
PUNCH Powerglide – The site

Site
910,000 sqm area with about 90,000 sqm of building

Certifications
• ISO/TS 16949
• ISO 14001
• OHSAS 18001
• AEO
Our Mission

We will contribute to the creative and entrepreneurial dynamic of the PUNCH Group by

• being recognized as a strategic partner by our customers in the manufacture of transmission and components
• ensuring the design, industrialization and production of innovative transmission solutions.

We will achieve our mission through the fundamental values of our company which are the implication and the motivation of our collaborators.

Our Values

Customer’s enthusiasm
We anticipate our customer’s expectations

Excellence
We strive for perfection in each and every field

Team Spirit
Together we build our future

Trust
We earn the trust we give
PUNCH Powerglide History
Product Management Milestones

- **1967**: Establishment of General Motors Strasbourg
- **1968**: Launch of the 3-Speed Automatic Transmission production
- **1988**: Launch of the 4-Speed Automatic Transmission production
- **1998**: Launch of the 6-Speed Automatic Transmission production
- **2006**: Launch of the 8-Speed Automatic Transmission industrialization for ZF
- **2013**: GM Strasbourg site is acquired by PUNCH Metals International and becomes PUNCH Powerglide Strasbourg
- **2014**: Launch of P2 program
- **2016**: 8-Speed increased capacity from 200 to 400K units / year

Launch of the 5-Speed Automatic Transmission production

The timeline above illustrates the key milestones in the development and growth of PUNCH Powerglide's product management. Each year marks a significant step in the evolution of their automotive transmission technology, reflecting their commitment to innovation and expansion.
PUNCH Powerglide History
Business Management Milestones

- **1990**: Launch of 4-Speed series production for BMW
- **1996**: Launch of 4-Speed series production for BMW

- **2001**: Beginning of Component production for outside customers:
  - Planetary carriers
  - Housings for gearboxes
  - Ring gears
  - Output shafts for gearboxes

- **2010**: 10 million transmissions produced by PUNCH
- **2011**: 2 million 6-Speed transmissions produced by PUNCH

- **2013**: Foundation of Chinese subsidiary in Tianjin
- **2014**: Beginning of series production for TATA Motors
- **2015**: First SOP for a Chinese OEM
- **2016**: Launch of Casting parts manufacturing for Outside Customers

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PUNCH Powerglide Automatic Transmissions

3-Speed RWD Automatic 3L30 from 1968 to 1998 (30 years)

3.8 million units manufactured

4-Speed RWD/AWD Automatic 4L30-E from 1988 to 2003 (15 years)

2.3 million units manufactured

5-Speed RWD/AWD Automatic 5L40/50 from 1998 to 2009 (11 years)

2.2 million units manufactured
PUNCH Powerglide Automatic Transmissions

6-Speed RWD Automatic 6L45/50 since 2006

> 2,100,000 units manufactured

8-Speed RWD Automatic 8HP50 since 2014
8-Speed RWD Automatic 8HP45 since May 2015

More than 950,000 units manufactured

In partnership with ZF
PUNCH Powerglide Automatic Transmissions

Production Volume

![Graph showing production volume over time for different models of PUNCH Powerglide automatic transmissions.]
PUNCH Powerglide Automatic Transmissions
Customer Portfolio

PUNCH Powerglide develops, produces and delivers Automatic Transmissions to OEMs all around the world:

- BMW X1
- TATA Xénon
- TATA Hexa
- SAIC Automotive MRH3A
- Yunnei Foday Landfort
- Holden Commodore
- Chevrolet Mid Pickup
- Liebao Leopaard Q6
- SAIC T60 – D90
We are managing, preparing and delivering the spare and maintenance parts required by customers
PUNCH Powerglide Components
Product and Customer Portfolios

PUNCH Powerglide produces components for OEMs and Automotive Suppliers:

- Planetary carriers
- Ring gears
- Output shafts for gearboxes
- Cover Pump

Logos of various automotive brands are also mentioned, including MAGNA, ZF, JAGUAR, LAND ROVER, GM, OPEL, and ISUZU.
PUNCH Powerglide Services
Product and Customer Portfolios

PUNCH Powerglide offers services to OEMs and Automotive Suppliers:

<table>
<thead>
<tr>
<th>Consulting and Project Management</th>
<th>Laboratories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Analysis</td>
<td>Noise and Vibration Laboratory</td>
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<tr>
<td>Software and Calibration</td>
<td>Instrumentation Laboratory</td>
</tr>
<tr>
<td>Test Facilities</td>
<td>Material Laboratory</td>
</tr>
<tr>
<td>Component Test Benches</td>
<td>Metrology Laboratory</td>
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<tr>
<td>Dynamometer Test Benches</td>
<td>Manufacturing Engineering Process</td>
</tr>
<tr>
<td>Garage and Tool Room</td>
<td>Aluminum Die Cast Process</td>
</tr>
<tr>
<td></td>
<td>Lean Manufacturing</td>
</tr>
</tbody>
</table>

- Aluminum Die Cast Process
- Lean Manufacturing
High Product Quality Standards
High Product Quality Standards

Dear Madam/Sir,

In order to follow our global quality strategy of “zero defects” and to maintain a constant product quality improvement level, Magna Powertrain has defined quality targets for all suppliers.

Your quality performance for 2015 shows following results:

Delivered parts: 35529
Complaint parts: 0

<table>
<thead>
<tr>
<th>PPM</th>
<th>Target 2015</th>
<th>Result 2015</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents</td>
<td>2</td>
<td>0</td>
<td>A</td>
</tr>
<tr>
<td>Audit</td>
<td>0</td>
<td>0</td>
<td>A</td>
</tr>
</tbody>
</table>

Total Rating: A

We would like to thank you for your efforts to achieve Magna Powertrain’s quality targets.

BMW Quality statement

Parts Quality - production and logistic

Overall situation

Due statements

Open complaint statements: 0 (0 due of it)

TOP 10 (Defect parts above intervention limit)

The quality of your supplied parts of the last three months under runs the intervention limits for all part numbers.
Section 3

6L Portfolio & New Transmission Concepts

1 – 6L50 transmission
2 – 6L Stop & Start
3 – Mild Hybrid
4 – 6LP2 Hybrid AT
5 – Dedicated Hybrid Transmission (DHT)
6 – E-drive
7 – Development of 10-speed automatic
6L50 Portfolio – From a conventional to Full Hybrid AT

Conventional  Stop & Start  Mild Hybrid (12V, 48V)  6LP2
6L50: Key features

6L50

- 6-Speed Lepelletier
- RWD – AWD – 4x4 Longitudinal
- Max. Engine Power: 235 KW
- Max. Engine Torque: 500 NM
- Max. Shift Speed: 7,000 RPM
- Weight (WET) < 88 KG
- Integrated Controls
- Torque Converter Slip Control
- Automatic Grade Braking
- Engine Applications up to 5.3 L
- Launched in 2006

<table>
<thead>
<tr>
<th>Gear Ratios</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>Reverse</th>
<th>Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear Ratios</td>
<td>4.065</td>
<td>2.371</td>
<td>1.551</td>
<td>1.157</td>
<td>0.853</td>
<td>0.674</td>
<td>3.200</td>
<td>6.040</td>
</tr>
</tbody>
</table>
6L50 Micro Hybrid: Key Features

6L50 Stop & Start

- Feature available for 6L50
- Can provide a fuel economy of 6.5%, particularly beneficial for driving cycles in a congested traffic
- Ideal first step to a further electrification of the vehicle, in Europe today almost a standard
6L50HD with a reinforced parking system available
6L50 Mild Hybrid
Belt Starter Generator (BSG) 12V/48V
6L50 Mild Hybrid: Key Features

BSG Key Basic Features

- Base Start/Stop
- Boost
- Recuperation
- Conventional Generator
- Others

Can be supported by **Conventional 6L** without hardware change.

Can be supported by **Advanced 6L**
6LP2: An integrated full hybrid AT

6L Hybridization

- PHEV capable, full NEDC in pure electric driving
- Target: Available by 2020
- Minimized investment and proven technologies with off-the-shelf subsystems: EM, C0, DMF and auxiliary pump
- Scalable solution capable of responding to the aggressive target of 4l/100km average fuel consumption in China by 2025.
Dedicated Hybrid Transmission: Design Targets for the Concept

- **OEMs & CUSTOMERS NEEDS**
  - PERFORMANCE & COMFORT (even in pure ICE mode)
  - SMART PACKAGING, SUITABLE FOR EXISTING VEHICLES
  - FLEXIBILITY HEV – PHEV – EREV

- **DESIGN TARGETS**
  - 2 EM ratios (or more)
  - 4+ ICE ratios, spread > 5
  - ICE launch mode
  - 5 clutches max.
  - 3 plans of gears max.
  - 1 single EM
  - Suitable for several sizes and powers of EMs.
Dedicated Hybrid Transmission (DHT): 2 patented concepts
E-Drive Module: Key features of the concept

**Strategic rationale**
- ‘E-Drive modules’ are composed of an electric motor, a gear system providing one or two ratios and a differential, and possibly the power electronics.
- With appropriate ratio(s), the module can get best advantage of new efficient high-speed rotating electrical motors. It represents a compact turn-key solution for full electrification or for hybridization. On a front wheel drive conventional vehicle, it can be installed on the rear axle to hybridize the vehicle. The opposite can be done for rear-mounted engine with rear-wheel drive configurations. Two modules can be used for electric or four-wheel drive vehicles.

**Technical info**
- FWD / RWD / AWD
- 1 or 2 ratios
- Integrated EM
- EM 18 000 rpm
- Integrated Power Electronics

**Product**

**IP and know-how**
- Architecture designed by PUNCH Powerglide.
E-drive concept: Current available specifications

Electric motor
- Peak power 200 kW
- Peak torque 400 Nm
- Maximum speed 16,000 rpm

Transmission
- 3-axis single-speed architecture
- 2 variants, ratio 11.8 and ratio 13.1
- Output torque 5,000 Nm
- Transmission weight <36 kg
- Center distance 185 mm
- Packaging 242/460/288 mm
- Park system with electric actuator
- Splash lubrication, additional pump for counter clockwise applications
- Lifetime: 300,000 km, 8,000 h & 15 years

Vehicle
- Gross Vehicle Weight up to 4,200 kg
Standard program timing

• This timing proposal is a standard one
• It will be adapted based on customer specifications
10-Speed AT: Key features of the patented concept

FR Patent application filed 25 July 2013

Fuel economy, more ratio flexibility, more performance (0-100 kph)

### Targets for the concept research
- 10 speeds
- Overall spread > 8
- Low drag loss
- Good efficiency
- Possibility of internal starting clutch (for hybrid)

### Specifications of the detailed cross-section
- Torque & Power envelope equivalent to 8HP50 500 Nm and 260 kW
- Size: must fit in the 8HP50 applications
- Weight must not exceed 8HP50 one
- Off-axis pump
- Integration of start-stop HIS system
Section 4
PUNCH Powerglide Tianjin

1 – Presentation
2 – Partnerships in China
3 – Development Agreements in China
4 – SAIC Award
PUNCH Powerglide Tianjin Technology Co., Ltd

The Roadmap for the Chinese market

- Commercial
  - Order Processing
  - Contract Management
  - Admin

- Logistics
  - Customs clearance
  - Import
  - Reflash
  - Dispatch

- Quality & After-Sales
  - Production ramp-up support
  - Support and training
  - Field issues: First level support
  - Spare parts supply
Strong Partnerships in China
Proposing Power Packs

Key customer benefits

• Engine and Transmission already interfaced ready to be “plugged in”.
• Solution that saves time and money.
• Efficient project management through well-established cooperation (engine, engine management control system and automatic transmission).
• Adapted programme management capabilities due to recognized long experience with Chinese OEMs.
Development Agreements in China

- Customers:
  - SG AUTOMOTIVE
  - HI-TECH
  - CHANGFENG MOTOR
  - SAIC MOTOR
  - FODAY
  - DONGFENG LIUZHO
  - JIANGXI ISUZU
  - ZX Auto
  - ChangAn

- Our Chinese Subsidiary

- Engine Partner:
  - MITSUBISHI MOTORS
  - PUNCH Powerglide Tianjin
  - YUNNEI POWER
  - JIANGXI ISUZU ENGINE

- Customers:
  - Beijing
  - Baoding
  - Ding Zhou
  - Tianjin
  - Changsha
  - Kunming
  - Liuzhou
  - Nanchang
  - Shanghai
  - Foshan

- Engine Partner:
  - MITSUBISHI MOTORS
  - PUNCH Powerglide Tianjin
  - YUNNEI POWER
  - JIANGXI ISUZU ENGINE
Winner of SAIC Maxus Supplier Award 2016, 2017 and 2018

- PUNCH Powerglide has won twice the award for **Technology & Innovation** and lately the award as “**Most value adding supplier**”
- SAIC has thereby recognized the strong partnership between both companies in the domain of automatic transmission technology
- This award will help PUNCH Powerglide to further enhance its reputation as a reliable technology company and partner in China